CLAIMS

What is claimed is:

1. An evacuation apparatus for removing gaseous byproducts or noxious vapors comprising:

a head substantially defining a plenum having an outer surface, said plenum having an inner periphery defining a generally central opening, said plenum having an opening in said outer surface adjacent to the inner periphery;

a plenum support for preventing the plenum from collapsing when a low pressure is established therein;

a fluid source nozzle adapted to guide a fluid to the head; and

a vacuum nozzle adapted to guide a fluid from the head.

2. The evacuation apparatus according to claim 1, further comprising at least a plurality of manifold barriers carried by said plenum, wherein said manifold barriers cover a portion of said inner periphery adjacent to said fluid source nozzle.

3. The evacuation apparatus according to claim 2, wherein said manifold barriers are solid.

4. The evacuation apparatus according to claim 2, wherein said manifold barriers are perforated.

5. The evacuation apparatus according to claim 1, further comprising at least one baffle located in said plenum between said fluid source nozzle and said central opening.

6. The evacuation apparatus according to claim 1, further comprising a fluid source operatively coupled to the fluid source nozzle and supplying generally particle-free air to said head.

7. The evacuation apparatus according to claim 1, wherein a generally unidirectional, laminar airflow runs through said central opening in the general direction of said vacuum nozzle.

8. The evacuation apparatus according to claim 1, further comprising a piece of sheet material, said apparatus operably coupled to said piece of material.

9. An evacuation apparatus for operatively coupling to a vacuum and a fluid source and for removing gaseous byproducts or noxious vapors comprising:

a head substantially defining a plenum having an outer surface, said plenum having an inner periphery defining a generally central opening, said plenum having an opening in said outer surface adjacent to the inner periphery; and a plenum support for preventing the plenum from collapsing when a low pressure is established therein, wherein said plenum has a bottom wall, wherein said bottom wall of said plenum includes an adhesive layer for adhesive attachment of said head around a surgical site.

10. The evacuation apparatus according to claim 9, wherein said plenum is constructed of a generally non-porous material.

11. The evacuation apparatus according to claim 9, wherein said plenum support is constructed of a generally porous material.

12. The evacuation apparatus according to claim 9, wherein said fluid source supplies an inert gas through said head.

13. A medical appliance adapted to operably couple to a vacuum source and an air source, the appliance comprising:

a working head having a central opening for at least partially surrounding a surgical site and including at least one air inlet for coupling to the air source and at least one vacuum outlet for coupling to the vacuum source, whereby when the vacuum outlet is operably coupled to at least the vacuum source and the vacuum source is actuated, an air flow flows through the central opening and over the surgical site.

14. The medical appliance according to claim 13, wherein said air flow is laminar.

15. The medical appliance according to claim 13, wherein said working head defines a plenum having an outer surface, said plenum having an opening in said outer surface adjacent to an inner periphery of said central opening of said plenum.

16. The medical appliance according to claim 15 further comprising a plurality of manifold barriers carried by said plenum, wherein said manifold barriers cover a portion of said inner periphery adjacent to said at least one air inlet.

17. The medical appliance according to claim 15, further comprising at least one baffle located in said plenum between said at least one air inlet and said at least one central opening.

18. The medical appliance according to claim 13, wherein said working head substantially contains air flow when actuation of the vacuum source occurs.

19. The medical appliance according to claim 13, wherein said at least one air inlet and said at least one vacuum outlet are on generally opposite sides of said working head.

20. An evacuation apparatus for operatively coupling to a vacuum and an ultra clean fluid source to remove gaseous byproducts or noxious vapors, the apparatus comprising a head defining a plenum having an outer surface, said plenum having an inner periphery having a generally central opening defining a 360 degree arc, said plenum having an opening in said outer surface adjacent to the inner periphery so that the vacuum and laminar air flow from the ultra-clean fluid source act together to evacuate gaseous material across an area defined by the 360 degree arc, said plenum having a plenum support for preventing the plenum from collapsing when a low pressure is established therein.

21. The evacuation apparatus according to claim 20, wherein said head is operatively coupled to said fluid source with at least one nozzle, and operatively coupled to said vacuum with at least one nozzle, wherein said at least one nozzle operatively coupled to said fluid source and said at least one nozzle operatively coupled to said vacuum are generally opposed.

22. The evacuation apparatus according to claim 21, further comprising at least one baffle located in said plenum between said nozzle operatively coupled to said fluid source and said central opening.

23. The evacuation apparatus according to claim 20, wherein said fluid source supplies generally particle-free air to said head.

24. The evacuation apparatus according to claim 20, further comprising a piece of sheet material, said apparatus operably coupled to said piece of material.

25. The evacuation apparatus according to claim 20, wherein said plenum has a bottom wall, wherein said bottom wall of said plenum includes an adhesive layer for adhesive attachment of said head around a surgical site.

26. The evacuation apparatus according to claim 20, wherein said plenum is constructed of a generally non-porous material.

27. The evacuation apparatus according to claim 20, wherein said plenum support is constructed of a generally porous material.

28. The evacuation apparatus according to claim 20, wherein said fluid source supplies an inert gas through said head.

29. A medical appliance operably coupled to a vacuum source and a clean fluid source, the appliance comprising a working head having a central opening for being positioned around a surgical site, said working head including at least one inlet for coupling to the clean fluid source and at least one outlet for connecting to the vacuum source, whereby actuation of at least the vacuum source produces a laminar flow of clean fluid through the central opening and over the surgical site, wherein an inflow of the vacuum source is greater than or equal to an outflow of the clean fluid source including any gaseous materials removed.

30. The medical appliance according to claim 29, further comprising at least one baffle located in said working head between said at least one inlet and said central opening.

31. The medical appliance according to claim 29, wherein said working head substantially contains clean fluid flow when actuation of the vacuum source occurs.

32. The medical appliance according to claim 29, wherein said at least one inlet and said at least one outlet are on generally opposite sides of said working head.

33. An evacuation apparatus for operatively coupling to a vacuum and a fluid source to remove gaseous byproducts or noxious vapors, the apparatus comprising:

a head substantially defining a plenum having an outer surface, said plenum having an inner periphery having a generally central opening surrounding a surgical site and through which the fluid source provides a laminar fluid flow wherein an outflow of the fluid source is less than or equal to an inflow of the vacuum, said plenum having an opening in said outer surface adjacent to the inner periphery, said plenum having a plenum support for preventing the plenum from collapsing when a low pressure is established therein,

at least one inlet nozzle for operatively coupling to the fluid source; and

at least one outlet nozzle for operatively coupling to the vacuum,

wherein said at least one inlet nozzle and said at least one outlet nozzle are generally opposed.

34. The evacuation apparatus according to claim 33, further comprising at least one baffle located in said plenum between said inlet nozzle and said central opening.

35. The evacuation apparatus according to claim 33, further comprising a piece of sheet material, said apparatus operably coupled to said piece of material.

36. An evacuation apparatus for operatively coupling to a vacuum and a fluid source to remove gaseous byproducts or noxious vapors, the apparatus comprising:

a head substantially defining a plenum having an outer surface, said plenum having an inner periphery having a generally central opening surrounding a surgical site and through which

the fluid source provides a laminar fluid flow wherein an outflow of the fluid source is less than or equal to an inflow of the vacuum, said plenum having an opening in said outer surface adjacent to the inner periphery; and

a plenum support for preventing the plenum from collapsing when a low pressure is established therein,

wherein said plenum has a bottom wall, wherein said bottom wall of said plenum includes an adhesive layer for adhesive attachment of said head around a surgical site.

37. The evacuation apparatus according to claim 36, wherein said plenum is constructed of a generally non-porous material.

38. The evacuation apparatus according to claim 36, wherein said plenum support is constructed of a generally porous material.

39. The evacuation apparatus according to claim 36, wherein said fluid source supplies an inert gas through said head.